

REMARKS

Claims 1-4, 6, 8-13, 15, 17 and 19 are pending.

Claims 1, 13, 17 and 19 are amended.

Claims 14, 16 and 18 are cancelled.

No new matter is added.

Reconsideration is requested.

Interview Summary

Per 37 CFR § 1.133(b), the following is a brief summary of a telephone interview conducted on May 27, 2010 via telephone between the applicants' representative, Kurt Eaton, examiner Anna Momper and the examiner's supervisor Bradley King.

No exhibits were shown or demonstrations conducted. Only claims 1, 8, 9 and 13-18 were discussed. The only references discussed were U.S. Patent No. 5,860,883 to Jonen et al. (hereinafter "Jonen"), U.S. Patent App. Pub. No. 2002/0015825 to Meco et al. (hereinafter "Meco"), U.S. Patent App. Pub. No. 2004/0014544 to Ito et al. (hereinafter "Ito"), European Patent App. Pub. No. 1052425 to Osako et al. (hereinafter "Osako").

During the interview, the applicants' representative and the Examiner discussed the propriety of the proposed modification of Ito using Meco as applied against claims 1, 13 and 17, the propriety of the proposed modification of Jonen using Meco as applied against claims 8 and 9, and the propriety of the proposed modification of the resistant layer disclosed in Meco per the alleged teachings of Osako as applied against claims 14-16 and 18. No agreement was reached as to the issues above. It will be appreciated that the general thrust of the interview will be understood in view of the prosecution history and arguments presented below.

Claim Amendments

Claims 1, 13 and 17 are amended to incorporate the subject matter recited in claims 14, 16 and 18, respectively.

Claim 19 is amended to depend from claim 17 instead of claim 18, which is currently cancelled.

Claim Rejections - 35 U.S.C. § 102

Claim 13 stands rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent App. Pub. No. 2002/0015825 to Meco et al. (hereinafter “Meco”). Applicants respectfully traverse this rejection.

Claim 13, as amended, is directed to a resistant layer (8):

adhered to and directly contacting the teeth of a toothed belt (1) via spreading and comprising a fluorinated plastomer and an elastomeric material; wherein said fluorinated plastomer is in an amount by weight of between 101 and 150 parts by weight with respect to said elastomeric material and is formed for more than 50% by particles of average size smaller than 10 μ m. (emphasis added)

Meco fails to teach or suggest wherein the resistant layer is adhered to and directly contacts the teeth of a toothed belt and includes an elastomeric material and a fluorinated plastomer formed of more than 50% by particles of average size smaller than 10 μ m, as recited in claim 13.

For example, FIG. 1 of Meco shows an adhesive material 9 disposed between the fabric 5 and the resistant layer 8. Further, at paragraphs [0029] and [0030], Meco states:

In addition, set between the coating fabric 5 and the resistant layer 8 is an adhesive material 9, for instance a CHEMOSIL (HENKEL registered trade mark) adhesive or a CHELOK (LORD registered trade mark) adhesive.

As shown in FIG. 3, where the white parts between the fabric 5 and the resistant layer 8 represent the adhesive material 9, the resistant layer 8 is in this way clearly distinct and separate from the underlying fabric 5. (emphasis added)

In view of the above-quoted description, Meco explicitly teaches a structure and method wherein the adhesive material 9 is interposed between the resistant layer 8 and the fabric 5 to adhere the resistant layer 8 to the fabric 5. Because the adhesive material 9 is interposed between the resistant layer 8 and the fabric 5, Meco does not teach the resistant layer (8) “adhered to and directly contacting the teeth of a toothed belt (1)” as recited in claim 13.

For at least the reasons presented above, claim 13 is not anticipated by Meco.

Moreover, in describing distribution of fluorinated plastomer particle sizes within the resistant layer (8), Table 1 of Meco states that 10% of the particles have a size of less than 10 μ m, 90% of the particles have a size of less than 35 μ m, and the mean particle size is 20 μ m. Because 10% of the fluorinated plastomer particles within the resistant layer (8) of Meco have a size of less than 10 μ m, 90% of the fluorinated plastomer particles within the resistant layer (8) of Meco have a size of less than 35 μ m, and the mean fluorinated plastomer particle size in the resistant layer (8) of Meco is 20 μ m, Meco does not teach wherein more than 50% of the

fluorinated plastomer particles in the resistant layer (8) have an average size smaller than 10 μm , as recited in claim 13.

For at least these additional reasons, claim 13 is not anticipated by Meco.

Claim Rejections - 35 U.S.C. § 103

Claims 1 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of Meco. Applicants respectfully traverse this rejection.

Claim 1, as amended, is directed to a toothed belt, comprising:

a body (2) and a plurality of teeth (4); said teeth being coated with a fabric (5); said fabric (5) being treated with a liquid solution of RFL impregnating fibres of the fabric and successively coated on the outside with a resistant layer (8); said resistant layer (8) directly contacting and adhering to said fabric and comprising a fluorinated plastomer and an elastomeric material; wherein said fluorinated plastomer is in an amount by weight of between 101 and 150 parts by weight with respect to said elastomeric material and is formed for more than 50% by particles of average size smaller than 10 μm . (emphasis added)

Rejecting claim 1, the Office Action asserts that Ito teaches “a fabric (62, 122)... treated with a liquid solution of RFL... and successively coated on the outside with a resistant layer [0075] Ln. 8-9.” Applicants disagree.

At paragraph [0075], Ito states:

The reinforcing fabric 60, 62, 120, 122 is preferably made from fibers such as cotton fibers, polyester fibers, and nylon fibers, and is a woven fabric that is formed by one of plain weaving, twill weaving, and sateen weaving. The fabric may be a wide-angle fabric having a crossing angle between warp and weft yarns of 90-120°. The reinforcing fabric 60, 62, 120, 122 is treated with an RFL solution, after which it is coated with a rubber composition by using a friction coating method to produce a fabric impregnated with rubber. The RFL solution is a solution prepared by mixing an initial polycondensate of resorcinol and formalin with latex. The latex may be chloroprene, tertiary copolymer of styrene-butadiene-vinylpyridine, hydrogenated acrylonitrile rubber and NBR. (emphasis added)

Moreover, paragraph [0089] of Ito states:

For the reinforcing fabric, a woven fabric was formed by plain weaving with a wide weaving angle. The fabric was a mixture of aramid fiber (TWARON™) and polyethylene fiber in a weight ratio of 50:50. After immersion in an RFL solution, the fabric was subjected to a heat treatment at 150° C. for 2 minutes. A rubber composition was applied to the processed fabric by using friction coating to form a fabric impregnated with rubber. (emphasis added)

In view of the above, Applicants submit the “resistant layer” coated on the RFL-treated fabric 62 or 122 of Ito is merely a rubber composition that penetrates the fabric 62 or 122. One of ordinary skill in the art understands that, because the rubber composition is friction-coated onto the fabric 62 or 122, the rubber composition does not even form a “layer” on the working

surface of the fabric 62 or 122. Rather, as understood by one of ordinary skill in the art, the rubber composition is used to attach the fabric 62 or 122 to the body 42 or 102. *See, e.g.,* Ito at paragraphs [0088]-[0096]. Moreover, one of ordinary skill in the art understands that, during use, the rubber composition impregnating the fabric 62 or 122 wears out after only a few cycles, whereas the fabric 62 or 122 is generally more resistant to wear than the rubber composition that impregnates it. In view of the above, Applicants respectfully submit that one of ordinary skill in the art understands that Ito does not teach “a fabric (62, 122)... treated with a liquid solution of RFL... and successively coated on the outside with a resistant layer [0075] Ln. 8-9).” In view of the above, and absent any objective evidence to the contrary, Ito fails to teach “a plurality of teeth ... coated with a fabric ... being treated with a liquid solution of RFL impregnating fibres of the fabric and successively coated on the outside with a resistant layer ...” as recited in claim 1.

For at least these reasons, claim 1 is not rendered obvious by the combination of Ito in view of Meco.

Further rejecting claim 1, the Office Action acknowledges that “Ito... is silent as to the composition of the [rubber composition impregnating the fabric 62 or 122], and therefore fails to explicitly disclose the [claimed] resistant layer comprising a fluorinated plastomer and elastomeric material.” Attempting to cure this deficiency, the Office Action asserts that “it would have been obvious to one of ordinary skill in the art ... to modify the belt of Ito... to include the resistant layer comprising fluorinated plastomer and an elastic material, as taught by Meco... for the purpose of selecting an appropriate material for providing required abrasion resistance and friction.”

If one of ordinary skill in the art were to incorporate the resistant layer (8) of Meco into the transmission belt of Ito, as taught by Meco, one of ordinary skill in the art would adhere the resistant layer (8) incorporated from Meco to the fabric 62 or 122 of Ito using an adhesive material *because Meco teaches adhering the resistant layer (8) to a fabric layer (5) using an adhesive material (9)*. *See, e.g.,* Meco at paragraphs [0029] and [0030], also discussed above.

Meco is silent as to any teaching or suggestion that the resistant layer (8) is even capable of adhering directly to and contacting the fabric (5). Thus, Meco is silent as to any teaching or suggestion that the resistant layer (8) is capable of adhering directly to and contacting the fabric 62 or 122 of Ito. Even if the fluorinated plastomer particles in the resistant layer of the combination of Ito in view of Meco were modified such that more than 50% of the particles had an average size of less than 10 micrometers per the alleged teachings of Osako, nothing in Osako teaches or suggests that the resultant resistant layer can be adhered directly to and contact

the fabric 62 or 122 of Ito. Moreover, the Office Action fails to identify *any* prior art teaching, or knowledge within the level of one of ordinary skill indicating that, at the time of the invention was made, one of ordinary skill in the art would understand that the resistant layer (8) of Meco is capable of adhering directly to and contacting the fabric 62 or 122 of Ito. In view of the above, and absent any objective evidence to the contrary, the combination of Ito in view of Meco fails to teach “said resistant layer (8) directly contacting and adhering to said fabric” as recited in claim 1. Indeed, and absent any objective evidence to the contrary, *any* modification of Ito resulting in the resistant layer (8) of Meco adhering directly to and contacting the fabric 62 or 122 of Ito is based *not* on the level of one of ordinary skill in the art at the time the invention was made – but *only* on impermissible hindsight reasoning.

For at least these additional reasons, claim 1 is not rendered obvious by the combination of Ito in view of Meco.

Elements recited in claim 17 are similar to those discussed above with respect to claim 1. Therefore, arguments traversing the rejection of claim 1 are similarly applicable in traversing the rejection of claim 17.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of Meco, and further in view of European Patent App. Pub. No. 1 157 813 to Di Meco et al. (hereinafter “Di Meco”). Applicants respectfully traverse this rejection.

Claim 6 depends from claim 1 and, therefore, includes each and every element recited in claim 1. As shown above, claim 1 is not rendered obvious by the combination of Ito in view of Meco. Di Meco does not cure the deficiencies of Ito in view of Meco. Accordingly, claim 6 is not rendered obvious by the combination of Ito in view of Meco and Di Meco at least by virtue of its dependence from claim 1.

Claims 14, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ito in view of Meco, and further in view of Osako. Applicants respectfully traverse this rejection.

As discussed above, claims 14 and 18 have been incorporated into claims 1 and 17, respectively. The inability of Osako to cure the deficiencies of Ito in view of Meco is discussed above.

Claim 19 depends from claim 17 and, therefore, includes each and every element recited in claim 17. As shown above, claim 17 is not rendered obvious by the combination of Ito in view of Meco. Osako does not cure the deficiencies of Ito in view of Meco. Accordingly, claim

19 is not rendered obvious by the combination of Ito in view of Mecco and Osako at least by virtue of its dependence from claim 17.

Claims 8-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jonen in view of Mecco. Applicants respectfully traverse this rejection.

Claim 8 is directed to a process for fabrication of a toothed belt, wherein the process includes:

- forming an elongate belt body of an elastomeric material, the belt having a first, planar side and a second side opposite the first side;
- forming teeth along the second side;**
- coating the teeth with a fabric;**
- treating the fabric** with a liquid solution of RFL to impregnate fibres of the fabric;
- coating the treated fabric with a resistant layer comprising a fluorinated plastomer and an elastomeric material, the fluorinated plastomer being present in the resistant layer in an amount between 101 and 150 parts by weight of an amount of the elastomeric material; and
- directly contacting and adhering the resistant layer to the fabric coated over the teeth. (emphasis added)**

Rejecting claim 8, the Office Action refers to FIG. 3 of Jonen and asserts that Jonen teaches “coating the teeth [(46)] with a fabric (52, Col. 10, Ln. 64-67, Fig. 3); [and] treating the fabric with a liquid solution of RFL to impregnate fibers of the fabric.” Applicants submit that this interpretation is possible only if the process-specific language recited in the claim is disregarded.

Claim 8 does not recite “wherein the teeth are coated with a fabric” or even simply “wherein the fabric is treated” Rather, claim 8 recites “coating the teeth with a fabric,” “treating the fabric....” In the (former) interpretation, apparently given by the Office Action, the process can be carried out in any order so long as the teeth are coated with a fabric and the fabric is treated. In the (later) interpretation, implicitly required by the actual claim language, a fabric must be coated on teeth and fabric that is coated on teeth must be treated.

The teeth 46 of Jonen are formed *after* the compression rubber layer 36 is coated with the fabric layer 52. *See, e.g.*, Jonen at column 13, lines 9-49. Because the teeth 46 of Jonen are formed *after* the compression rubber layer 36 is coated with the fabric layer 52, Jonen does not teach coating the fabric layer 52 on the teeth 46, as required by claim 8. Also, the fabric layer 52 is treated with RFL solution *before* being coated onto the teeth 46. *See, e.g.*, Jonen at column 13, lines 29-49. Because the fabric layer 52 of Jonen is treated with RFL solution *before* being coated onto the teeth 46, Jonen does not teach treating the fabric layer 52 with

RFL solution *after* being coated onto the teeth 46, as required by claim 8. In view of the above, Jonen does not teach “forming teeth ... coating the teeth with a fabric; [and] treating the fabric...” as recited in claim 8.

For at least these reasons, claim 8 is not rendered obvious by the combination of Jonen in view of Meco.

Further rejecting claim 8, the Office Action acknowledges that “Jonen... fails to explicitly disclose providing the treated fabric with a resistant layer comprising a fluorinated plastomer.” Attempting to cure this deficiency, the Office Action appears to assert that “it would have been obvious to one of ordinary skill in the art ... to modify the belt of [Jonen]... to include the resistant layer comprising fluorinated plastomer and an elastic material, as taught by [Meco]... for the purpose of selecting an appropriate material for providing required abrasion resistance and friction.” Applicants respectfully disagree for similar reasons given above with respect to the rejection based on Ito in view Meco.

Specifically, if one of ordinary skill in the art were to incorporate the resistant layer (8) of Meco into the transmission belt of Jonen, as taught by Meco, one of ordinary skill in the art would adhere the resistant layer (8) incorporated from Meco to the fabric layer 52 of Jonen using an adhesive material *because Meco teaches adhering the resistant layer (8) to a fabric layer (5) using an adhesive material (9)*. See, e.g., Meco at paragraphs [0029] and [0030], also discussed above.

Meco is silent as to any teaching or suggestion that the resistant layer (8) is even capable of adhering directly to and contacting the fabric (5). Thus, Meco is silent as to any teaching or suggestion that the resistant layer (8) is capable of adhering directly to and contacting the fabric layer 52 of Jonen. Even if the fluorinated plastomer particles in the resistant layer of the combination of Jonen in view of Meco were modified such that more than 50% of the particles had an average size of less than 10 micrometers per the alleged teachings of Osako, nothing in Osako teaches or suggests that the resultant resistant layer can be adhered directly to and contact the fabric layer 52 of Jonen. Moreover, the Office Action fails to identify *any* prior art teaching, or knowledge within the level of one of ordinary skill indicating that, at the time of the invention was made, one of ordinary skill in the art would understand that the resistant layer (8) of Meco is capable of adhering directly to and contacting the fabric layer 52 of Jonen. In view of the above, and absent any objective evidence to the contrary, the combination of Jonen in view of Meco fails to teach “directly contacting and adhering the resistant layer to the fabric” as recited in claim 8. Indeed, and absent any objective evidence to the contrary, *any* modification of Jonen resulting in the resistant layer (8) of Meco adhering directly to and contacting the fabric layer 52

of Jonen is based *not* on the level of one of ordinary skill in the art at the time the invention was made – but *only* on impermissible hindsight reasoning.

For at least these additional reasons, claim 8 is not rendered obvious by the combination of Jonen in view of Meco.

Elements recited in claim 9 are similar to those discussed above with respect to claim 8. Therefore, arguments traversing the rejection of claim 8 are similarly applicable in traversing the rejection of claim 9.

Claims 10 and 12 depend from claim 8 and, therefore, are not rendered obvious by the combination of Jonen in view of Meco at least by virtue of their dependence from claim 8.

Claim 11 depends from claim 1 – not from claim 8. Claim 1 was rejected as being unpatentable over Ito in view of Meco – not Jonen in view of Meco. Consequently, claim 11 is not rendered obvious by the combination of Ito in view of Meco at least by virtue of its dependence from claim 1.

Further as discussed above, amended claim 13 is directed to a resistant layer (8):

adhered to and directly contacting the teeth of a toothed belt (1) via spreading and comprising a fluorinated plastomer and an elastomeric material; wherein said fluorinated plastomer is in an amount by weight of between 101 and 150 parts by weight with respect to said elastomeric material and is formed for more than 50% by particles of average size smaller than 10 μm . (emphasis added)

Rejecting claim 13, the Office Action acknowledges that “Jonen... fails to explicitly disclose providing the treated fabric with a resistant layer comprising a fluorinated plastomer.” Attempting to cure this deficiency, the Office Action appears to assert that “it would have been obvious to one of ordinary skill in the art ... to modify the belt of [Jonen]... to include the resistant layer comprising fluorinated plastomer and an elastic material, as taught by [Meco]... for the purpose of selecting an appropriate material for providing required abrasion resistance and friction.” Applicants respectfully disagree for similar reasons given above with respect to the rejection based on Ito in view Meco.

Specifically, if one of ordinary skill in the art were to incorporate the resistant layer (8) of Meco into the transmission belt of Jonen, as taught by Meco, one of ordinary skill in the art would adhere the resistant layer (8) incorporated from Meco to the fabric layer 52 of Jonen using an adhesive material *because Meco teaches adhering the resistant layer (8) to a fabric layer (5) using an adhesive material (9)*. See, e.g., Meco at paragraphs [0029] and [0030], also discussed above.

Meco is silent as to any teaching or suggestion that the resistant layer (8) is even capable of adhering directly to and contacting the fabric (5). Thus, Meco is silent as to any teaching or suggestion that the resistant layer (8) is capable of adhering directly to and contacting the fabric layer 52 of Jonen. Even if the fluorinated elastomer particles in the resistant layer of the combination of Jonen in view of Meco were modified such that more than 50% of the particles had an average size of less than 10 micrometers per the alleged teachings of Osako, nothing in Osako teaches or suggests that the resultant resistant layer can be adhered directly to and contact the fabric layer 52 of Jonen. Moreover, the Office Action fails to identify *any* prior art teaching, or knowledge within the level of one of ordinary skill indicating that, at the time of the invention was made, one of ordinary skill in the art would understand that the resistant layer (8) of Meco is capable of adhering directly to and contacting the fabric layer 52 of Jonen. In view of the above, and absent any objective evidence to the contrary, the combination of Jonen in view of Meco fails to teach “directly contacting and adhering the resistant layer to the fabric” as recited in claim 13. Indeed, and absent any objective evidence to the contrary, *any* modification of Jonen resulting in the resistant layer (8) of Meco adhering directly to and contacting the fabric layer 52 of Jonen is based *not* on the level of one of ordinary skill in the art at the time the invention was made – but *only* on impermissible hindsight reasoning.

For at least the reasons presented above, claim 13 is not rendered obvious by the combination of Jonen in view of Meco.

Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jonen in view of Meco, and further in view of Osako. Applicants respectfully traverse this rejection.

Claim 15 depends from claim 8 and, therefore, includes each and every element recited in claim 8. As shown above, claim 8 is not rendered obvious by the combination of Jonen in view of Meco. Osako does not cure the deficiencies of Jonen in view of Meco. Accordingly, claim 15 is not rendered obvious by the combination of Jonen in view of Meco and Osako at least by virtue of its dependence from claim 8.

As discussed above, claim 16 has been incorporated into claim 13. The inability of Osako to cure the deficiencies of Jonen in view of Meco is discussed above.

CONCLUSION

In review of the foregoing amendments and remarks, the application should be in condition for allowance. If any questions remain, the Examiner is requested to call the undersigned.


Respectfully submitted,

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Customer No.

MARGER JOHNSON & McCOLLOM, P.C.

By


Kurt M. Eaton

Registration No. 51,640

210 S.W. Morrison Street, Suite 400
Portland, Oregon 97204
Telephone: (503) 222-3613